PD-AAF-125-A
Prog File

D 1020-21 (10-70)

PROJECT APPRAISAL REPORT (PAR)

PAGE 1	2. PAR FOR PERIOD: 2/28/75 TO 2/28/76	3. COUNTRY Ethiopia	4. PAR SERIAL NO. 76-1
1. PROJECT NO. 663-K602/E2			

5. PROJECT TITLE (Drought Relief Grant): Rural Road Construction Activity Activity No. 2

6. PROJECT DURATION: Begin FY 75 Ends FY 77	7. ATE LATEST PIP Leg Letter #7	8. DATE LATEST PIP	9. DATE PRIOR PAR N/A
10. U.S. FUNDING	a. Cumulative Obligation (Grant) Thru Prior FY: $ 4,863,500	b. Current FY Estimated Budget: $ N/A	c. Estimated Budget to completion After Current FY: $ N/A

11. KEY ACTION AGENTS (Contractor, Participating Agency or Voluntary Agency)

a. NAME	b. CONTRACT, PASA OR VOLAG NO.
Relief and Rehabilitation Commission (RRC)	
Ethiopian Road Authority (ERA)	

12. NEW ACTIONS PROPOSED AND REQUESTED AS A RESULT OF THIS EVALUATION

A. ACTION (X) USAID	A.I.D./W	HQST	B. LIST OF ACTIONS	C. PROPOSED ACTION COMPLETION DATE
X		X	1. Assess implementation Letter to firmly established road standards, location of the Konso-Djinka leg of the Arba Minch-Konso-Djinka road and modify construction schedule to reflect new completion date.	6/1/76
		X	2. Establish spare parts requirements list and order same, and assign specific personnel to expedite spare parts procurement and distribution to project sites.	6/1/76
		X	3. Expedite placing of surfacing course by:	
			a. Assignment of front-end loader to each of the three sites, and	6/1/76
			b. Assignment 2 additional dump trucks to each site.	6/1/76
X		X	4. Complete an inventory of the status of "excess property" assigned to the activity and provide USAID with a list of equipment which needs to be scrapped.	6/1/76

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13. REPLANNING REQUIRED: REVISED OR NEW ☐ PROP ☐ PIP ☐ PRO AG ☐ PIO/T ☐ PIO/C ☐ PIO/P

14. DATE OF MISSION REVIEW

15. MISSION DIRECTOR: TYPED NAME AND SIGNATURE

16. DATE PAR HAS BEEN INITIALED AND DATE

AID 1020-25 (10-70) PAGE 2 PAR	PROJECT NO. [illegible]-2	PAR FOR PERIOD: TO [illegible]	COUNTRY [illegible]	PAR SERIAL NO. 78-1

H. PERFORMANCE OF KEY INPUTS AND ACTION AGENTS

A. INPUT OR ACTION AGENT	G. PERFORMANCE AGAINST PLAN							H. IMPORTANCE FOR ACHIEVING PROJECT PURPOSE (P)				
CONTRACTOR, PARTICIPATING AGENCY OR VOLUNTARY AGENCY	UNSATISFACTORY		SATISFACTORY			OUTSTANDING		LOW	MEDIUM			HIGH
	1	2	3	4	5	6	7	1	2	3	4	5
1. U.S. Technician					X							X
2.												
3.												

Comment on key factors determining rating

The U.S. technician assigned as construction superintendent on the Arba Minch-Konso-Djinka road project has been effective in the performance of his duties. (See page 5 for further comments on the performance of the RHA and EDC).

4. PARTICIPANT TRAINING	1	2	3	4	5	6	7	1	2	3	4	5

Comment on key factors determining rating

N/A

5. COMMODITIES 20 dump trucks	1	2	3	4	5	6	7	1	2	3	4	5
					X							X

Comment on key factors determining rating

Performance against planned targets would have been better if delays in placing critical equipment on the job had not put work behind schedule. (For details see page 5).

6. COOPERATING COUNTRY		1	2	3	4	5	6	7	1	2	3	4	5
	a. Ethiopia					X							X
	b. Other												

Comment on key factors determining rating

The Ethiopian staffs of RHA has performed most satisfactorily; the quality of most of the work seen to date has been very satisfactory. The RHA people have been most cooperative and helpful in assisting EDC in with its project monitoring duties

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7. OTHER DONORS N/A	1	2	3	4	5	6	7	1	2	3	4	5

(See Next Page for Comments on Other Donors)

AID 1020-28(10-70)	PROJECT NO.	PAR FOR PERIOD	COUNTRY	PAR SERIAL NO.
PAGE 2 PAR	663-F-602/K-2	2/28/75 - 2/28/76	Ethiopia	76-1

II. 7/ Continued: Comment on key factors determining rating of Other Donors

N/A

III. KEY OUTPUT INDICATORS AND TARGETS

A. QUANTITATIVE INDICATORS FOR MAJOR OUTPUTS		TARGETS (Percentage/Rate/Amount)					
		CUMULATIVE PRIOR FY	CURRENT FY TO DATE	CURRENT FY TO END	CY 76	CY 77	END OF PROJECT
1. 55% of 842 km* (total) completed in first 12 mos. = 463 km.	PLANNED	N/A	463	463	634	850	850*
	ACTUAL PERFORMANCE	N/A	226**				
	REPLANNED			226	634	850	850*
2. Improved nutrient standards for 940,000 drought stricken in 24 mos. or 470,000 in 12 mos.	PLANNED	N/A	470,000		940,000		940,000
	ACTUAL PERFORMANCE	N/A	470,000				
	REPLANNED			470,000	940,000		940,000
3. Provide employment 3,000 people in 24 mos. First 12 mos. 1,000 pop.	PLANNED	N/A	1,000		3,000		3,000
	ACTUAL PERFORMANCE	N/A	1,500				
	REPLANNED			1,500	3,000		3,000
	PLANNED						
	ACTUAL PERFORMANCE						
	REPLANNED						

B. QUALITATIVE INDICATORS FOR MAJOR OUTPUTS	COMMENT
1. ** 226 km completed (see page 8 for details).	COMMENT: Definition of completed road is one which has low-standard drainage facilities completed and is surfaced. The table appearing on page 10 of this MID shows an estimate of road completion using a percentage weight for each work category. This formula shows a higher percentage of road completion (226 km) than 121 reports show surfaced (61 km).
2. *** Improved nutrient standards for 940,000.	COMMENT: The increase of food supplies brought about by the improved roads and their distribution to malnourished people have improved the nutrient standards of a percent of the population. Because of the nomadic habits of these people, the exact number of people having their nutrient standard raised is not known but is estimated.
3. Employment of 1,500 people on road construction.	COMMENT: MDA annual report shows 1,500 people employed on road project during first 12 months.

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* Total length of project was provisionally changed from 842 km to 850 km (1/76) until all survey is completed c/a 6/76. See page 8 for details.

AID 1020-25 (10-71) PAGE 4 PAR	PROJECT NO. 663-F-601/E-2	PAR FOR PERIOD: 2/26/75 - 2/26/76	COUNTRY Ethiopia	PAR SERIAL NO. 76-1

IV. PROJECT PURPOSE

A. 1. Statement of purpose as currently envisaged.

2. Same as in PROP? ☐ YES ☐ NO

Rapidly increase the accessibility of drought affected areas of Southern Ethiopia by constructing low-standard access roads in some of these areas.

B. 1. Conditions which will exist when above purpose is achieved.	2. Evidence to date of progress toward these conditions.
1. 830 kilometers of low-cost, low-standard access roads completed.	1. 226 kilometers of survey, clearing and grubbing, earth work, drainage and surfacing completed to standards in the first 12 months of the project. (See page 18 for details).
2. Drought relief commodities and other forms of relief assistance having quicker, more frequent access into the affected areas.	2. Observations over the past 12 months indicate that access to two of the three major drought affected areas served by the roads has improved and the flow of commodities along the two roads has increased over the previous year (1974).

V. PROJECT OUTLINE

A. Purpose of Proposed Project

Assist the Ethiopian Government in meeting short term recovery and rehabilitation needs caused by the drought.

B. Will the achievement of the project purpose make a significant contribution to the programming goal, given the magnitude of the national problem? Give evidence.

Improved access into drought areas has increased the amount of relief commodities and services to the drought affected people and has cut the cost of transport. Improved access has also increased the alternatives for drought rehabilitation programs in the areas they serve.

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Comments on Performance of the RRC and ERA

The RRC's rapid response to the need for access roads into drought areas, and this agency's cooperation with ERA and USAID in the development of the rural roads construction activity was one key factor in starting this activity in a short period of time.

Had there not been delays, some of which beyond the control of ERA, in placing certain critical equipment in the three job sites, progress to date would have been significantly greater, and the overall performance rating would be higher. The quality of the work performed thus far is very satisfactory.

The delay in the progress of the road construction, specifically, placing of gravel surfacing, was caused by the necessity of purchasing, off-shore (US) 20 dump trucks, using emergency procurement procedures, for shipment to Ethiopia. This process was time consuming due to delays in drawing up equipment specification, shipment from manufacturer to Ethiopia, and shipment from the port of Assab to the job sites. This required about nine months of the first twelve months of the project time (March 1975 to Nov. 1975). Additionally, during shipment from the US, spare tires, standard accessories, and factory tools set were lost.

Once the trucks arrived on site further problems were encountered with regard to certain structural deficiencies related to the operation of the trucks on the job site. As an example, the motor mounts on the trucks did not stand-up under job site conditions. This has caused major breakdowns and delays on site use of the trucks. Modification of motor mounts is now underway for site operation. Other problems encountered were lack of spare parts for normal vehicle maintenance.

A major problem with regards to spare parts for the dump trucks is the lack of uniformity in component parts. For example, some of the trucks are equipped with Caterpillar engines, while others have Cummins engines. Other component parts are of different brands as well, all having their own parts catalogue, specifications and numbering system. In the end an inventory has to be made on each truck in order to establish what parts are needed for spare parts inventory.

Though only one US technician was hired by ERA to assist in this activity as a Construction Superintendent on the Arba Minch-Konso-Djimbo, other US technicians, working with ERA, funded through the IRRD project, assisted ERA from time to time on certain technical aspects of the activity during the period February 1975 to September 1975. One other US technician, hired by ERA as an Equipment Mechanic has assisted the activity in the maintenance of equipment from August 1975 through the present time. The Construction Superintendent and the Mechanic will continue to assist the project through June 1976.

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To date, equipment purchased by ERA for the Rural Roads Construction Activity are the followings:

Equipment Requested in Project Documents	Equipment Purchased	Budget	Paid
1. (2) D8 Dozers	1. (2) D7 Dozers	$292,000	$132,038
2. (1) D6 Dozer *	2. -	70,000	-
3. (2) Graders	3. (2) Cat. Graders	130,000	117,063
4. (20) Dump Trucks	4. (20) Dump Trucks	1,010,000	592,209
		$1,502,500	$841,020
		-861,080	
		$641,420	

USAID/E, REDSO/EA Technical Evaluation 9/22/7 - 9/25/75

USAID requested the services of RT 30 in September 1975 for the purpose of making a technical evaluation of the program and operations of this activity. The evaluation was made during the period September 22-25, 1975 with an engineer from REDSO/EA assisted by one engineer from SER/TEC, AID/W on TDY to REDSO/EA.

The evaluation raised the following issues:

a. Effective application by RDT of the low-cost, low standard, quick construction drought relief concept.

b. Adherence to standards for width of clearing, bushclearing work, drainage and other construction features established for the activity.

c. Insufficient equipment and spare parts at the job sites.

d. Arba Minch-Konso-Djinka road alignment and project management.

e. Actual cost of road construction, and appropriateness of charges.

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* Not available.

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There was evidence that some over-standard construction had taken place in particular with respect to drainage facilities and clearing and backslope work. These points were discussed between USAID and ERA on 10/17/75, after which ERA informed USAID that they would look into these matters in the field.

Insufficient equipment on the jobs during most of the year is the major reason for some aspects of the work being behind schedule. For example, the twenty Dodge dump-trucks ordered by ERA spent the better part of the year (about 9 months) travelling from California to their final destination. This delay in particular caused the road surfacing work to fall about 50% behind schedule.

The chart showing work completed on page 11 indicates that, on an average of the four road projects, the work was about 5[illegible]% behind schedule as of December 1975. At present, however, most of the equipment programmed for the activity is on the job (see placement of equipment table, page 12), and progress is expected to pick up measurably during the second twelve months, barring major problems. Despite of this acceleration, however, the completion of construction is not expected to finish on schedule in February 1977. More realistically, taking into account delays already encountered with equipment, and time loss due to two rainy seasons, construction should finish, the earliest, in or about June, 1977, four months past the original completion date.

The Arba Minch-Konso portion of the Arba Minch-Konso-Djinka road has been established along a new line at a point south of Shelle. This new alignment is satisfactory to USAID. The Konso-Djinka alignment has been agreed to by USAID, ERA, and the ERC as follows:

This leg will follow a line from Konso due west, north of and approximately parallel to the Segen River, to a point on the Weito River, then across this river in a first northerly and then westerly direction to Djinka.

Following a field inspection by USAID/E and ERMCO/TA (1/21 - 22/76) construction cost estimates were established (E$10,740 per kilometer; total project length established (provisionally) at 630 km; percentage weights established for specific road construction activities (see table showing work completed as weighted percentage of whole, page 11); estimates of work completed as of 12/75 (226 kms, see table, page 11); computation of available US funds per kilometer (below); and road standards established (see page 10).

On the basis of the estimated cost of road construction (ERMCO/E: 1/30/76) of E$10,740 per kilometer x 630 kms of road remaining to be constructed, it will cost E$6,766,200 or US$3,292 923 to complete the project, 67% of this figure, or US$2,206,288 is the US contribution. Remaining US project funds as of 12/75 are US$2,304,639, therefore, we appear to have an excess of US$98,351 over estimated project cost as of the close of 1975.

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Since the original E$8,000 per kilometer cost estimates for this project were made without the benefit of complete ground survey, extensive ground reconnaissance or experience with similar construction in the project areas, the probability of error was high. Similarly, the latest construction cost estimates, though more rational because of the past year's experience, could be excessive or insufficient in the end. This is the chance which has to be taken, if emergency projects are to be undertaken rapidly.

Excess Property

Much of the "excess property" (Engmov) assigned to this activity is inoperative and beyond repair. ERA has pointed out that a good deal of this equipment turned out to be practically worthless because of the poor condition it was in when it was taken over by the GCE. ERA is making a status inventory of all "excess property" assigned to the rural roads activity in order to determine which pieces of equipment should be scrapped.

Estimate of Total Project Length

The project length, road by road, has been estimated by ERA and USAID 1/30/76 as follows for computation purposes.

Arba Minch - Konso - Djimla	210 kms approx.
Kugolo-Wachile-Mago	220 " "
Ginir-Imi	170 " exact
Imi-Elkere/Gode	250 " approx.
	850 kms

When exact distance is determined, after completion of survey work, estimated values will be changed accordingly.

Work Completed

ERA reports indicate 91 km of road completed (surfaced), however, this does not reflect the total amount of work completed in other categories - location and survey, clearing and grubbing, earthwork, and drainage. Utilizing the formula applied in the table on page 11 the actual amount of work completed in all categories during the first twelve months totals 221 kms.

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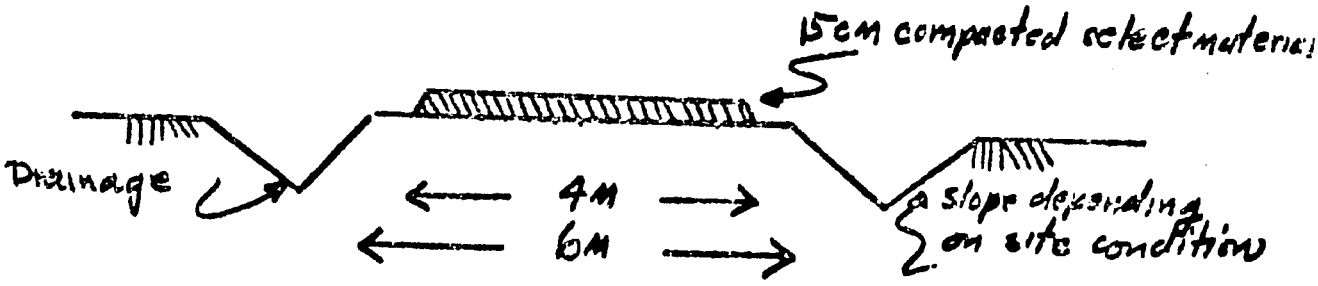
Standards



Clearing width maximum	20 m*
Road formation width	6 m
Surfacing	4 m

Drainage

Stone fords, tied with mortar masonry wall as required; concrete pipes (manufactured on site) and masonry culverts with concrete or wooden decks depending on site conditions.

Bridges

Where applicable, for spans between six to ten meters, bridges shall be of concrete slab construction with masonry abutments. For spans of above ten meters, bailey bridges shall be used.

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* If site conditions warrant greater width prior approval must be obtained from the authorized area engineer.

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Table Showing Work Completed as Weighted Percentage of Whole*

Project	Activity	Total Accomplished To 12/73	Weight %	Total Partial	Total
1. Arba Minch-Konso-Djinka (12 mos, target 150 kms 65.70 = 88% of target)	Location & survey Clearing & grubbing Earthwork Drainage Surfacing	135 kms 137 " 63 " 40 " 37 "	5% 15% 35% 15% 30%	5.75 19.05 23.80 6.00 11.10	65.70
2. Kogelo-Wachile-Moyo (12 mos. target 164 kms 83.45 = 49% of target)	Location & survey Clearing & grubbing Earthwork Drainage Surfacing	140 kms 120 " 113 " 66 " 19 "	5% 15% 35% 15% 30%	7.00 18.00 39.55 10.20 5.70	83.45
3. Ginir-Imi (12 mos. target 85 kms 64 = 75% of target)	Location & survey Clearing & grubbing Earthwork Drainage Surfacing	170 kms 111 " 63 " 42 " 35 "	5% 15% 35% 15% 30%	8.50 16.65 22.05 6.30 10.50	64.0
4. Imi Gode-Sikoro (12 mos. target 100 kms 13 = 13% of target)	Clearing & grubbing	80 kms	15%	13.20	13.20
				Total kms	230.3

* Weights for Road Construction Activities as percentage of whole

Location & survey	5%
Clearing & grubbing	15%
Earthwork	35%
Drainage	15%
Surfacing	30%

(00.) = 12 month objective as per Implementation Letter log frame
00% of target.

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PLACEMENT OF EQUIPMENT*

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Jobs	Pick-up Trucks	Dump Trucks	Graders	Tractors	Bull Dozers	Station Wagons	Cargo Trailer	Shop Trucks	Light Plant	Water Trucks	Gene-rators	Rollers	Compr-essors
Arba Minch Konso Djimka	51/ (2)	6 10	1 2	1 2	2 2	3	1	1	-	- 2	- 2	- 2	- -
Negele Bichile Kego	11/ (1)	7 5	1 1	1 1	1 1	2	-	1	1	- 1	- 1	- 1	-
Dimir-Imi	- 2	10 10	1 1	- 2	2 2	3	-	-	2	2 2	1 2	- 2	-
Imi Gode Elkere	- 1	4 5	2 1	- 1	3 1	3	-	-	1	1 1	1 1	- 1	1
Gomu Gofa Community (on loan)	-	1	1	-	2	-	-	-	-	-	-	-	-
Army (on loan)	-	3	-	-	-	-	-	-	-	-	-	-	-

* (Source: ERA Annual Progress Report 1/16/76 and Activity Implementation Letter)

1/ Number on site as per ERA reports.

Figures on second line indicate numbers planned for site per Activity Implementation Letter Jan. 16, 1976.

Distribution

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